Room 4-10A15
ASTRODOME
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This is NASA

MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

32 PAGES IN FULL COLOR SHOWING HOW MAN IS PREPARING TO LAND ON THE MOON

PUBLISHED AND DISTRIBUTED BY SPACE PHOTOS
2608 SUNSET BLVD., HOUSTON, TEXAS

These attractive and fascinating photographs provide a brief acquaintance with NASA's Manned Space Flight Program. The enormous scientific, engineering, technological and managerial skills of both government and private industry have been amassed to attain America's challenging goal of landing a man on the lunar surface and returning him safely to earth.

Steps One and Two in our efforts to reach the moon have been concluded. During Project Mercury we first orbited a man in space. Project Gemini not only proved that we could orbit a more sophisticated, two-man spacecraft, but also that an astronaut could exit the spacecraft in flight and perform extravehicular tasks, secured only by an umibilical tether. Moreover, Gemini astronauts acquired valuable experience in rendezvousing and docking Gemini with Agena spacecraft in orbit. The third and final phase, Project Apollo, is now underway. In the near future, a huge Saturn V launch vehicle will lift off Pad 39 at the Kennedy Space Center and propel a three-man Apollo spacecraft toward the moon.

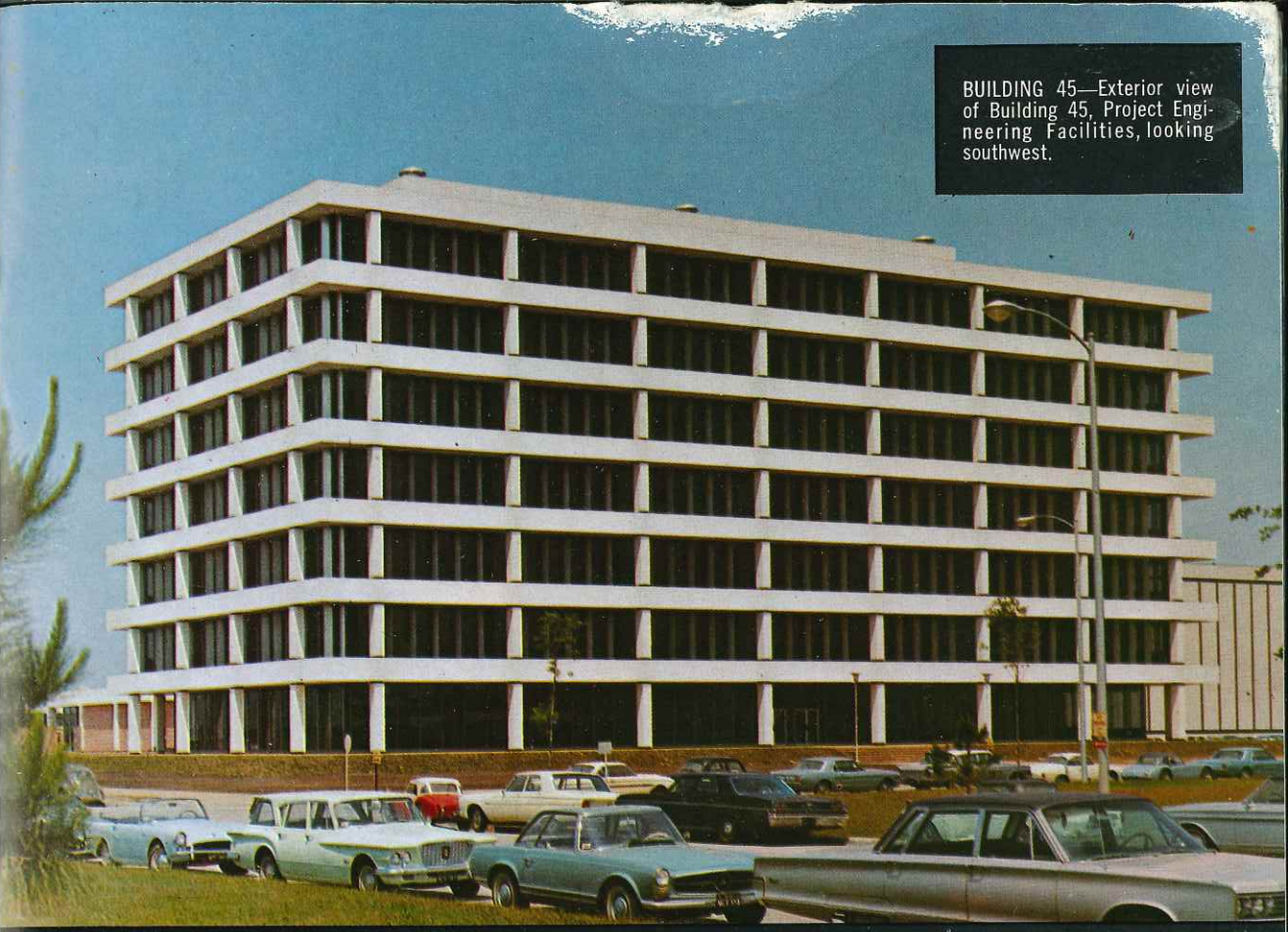
"Manned Spacecraft Center's role in the manned space flight program includes management of the development of spacecraft, training of crews, and conduct of manned missions. The manned space flight program is under the over-all direction of the Office of Manned Space Flight, NASA Headquarters, Washington, D. C. Other NASA centers, DOD, private industry, and other institutions also participate."

The Manned Spacecraft Center ("The Home of the Astronauts"), situated on some 1,620 acres of former pasture land located 25 miles southeast of Houston, has been charged with several specific responsibilities in connection with the Manned Space Flight Program, including flight crew selection, training and mission performance. Included in this book are pictures of some of the MSC buildings which house offices, laboratories, training and test facilities. No launch pads will be found on the nearby Texas prairie. But behind the scenes at MSC can be found a considerable aggregation of government and contractor talent diligently dedicated toward achieving America's space goals.—RLM

ERRATA

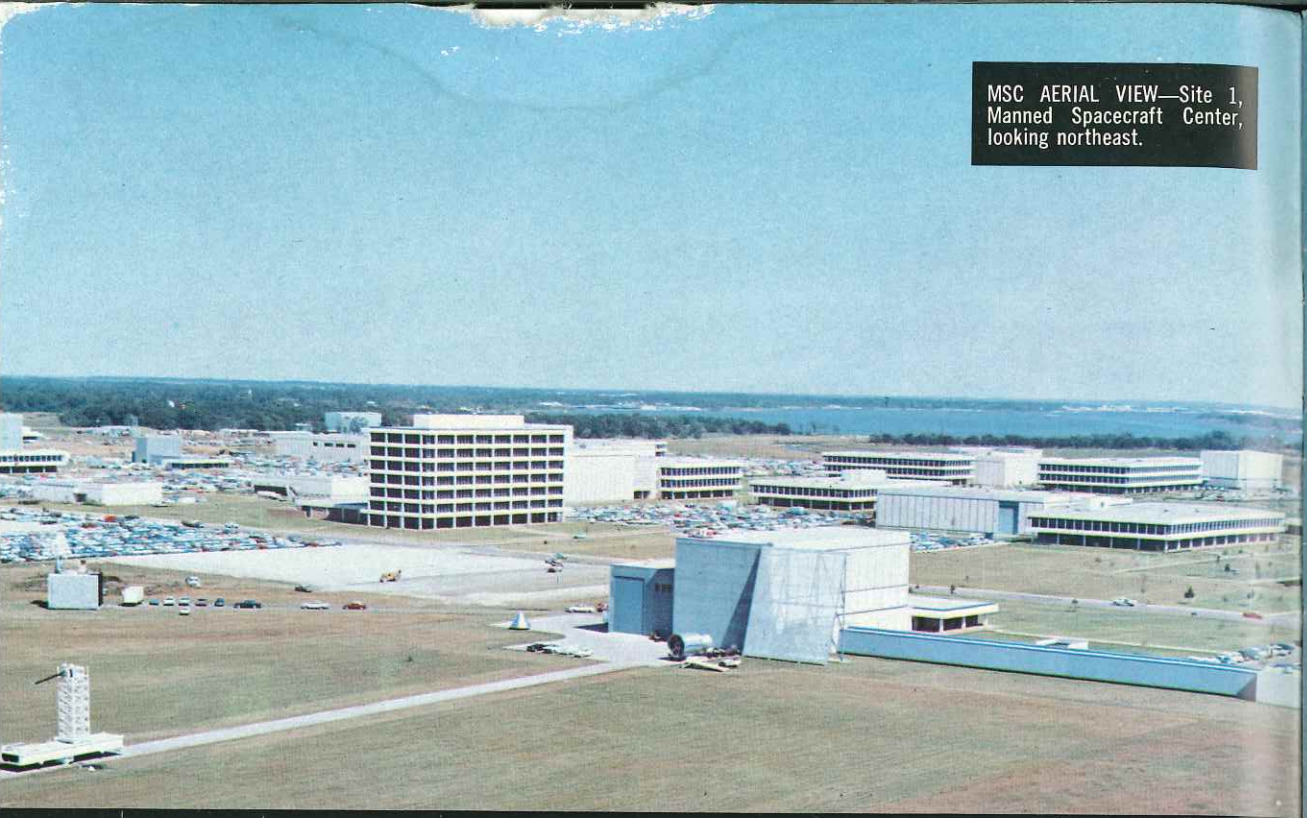
Page 3	**—The lunar module shown is a test article, not a "trainer."**
Page 8 and 9	**—The words "powered flight" should be substituted for the words "liftoffs."**
Page 11	**—Substitute "⅙ gravity simulator" instead of "⅙ degree of freedom simulator."**
Page 26 and back cover	**—Captions should read "during its 26th revolution around the earth" and "during its 44th revolution around the earth."**

The Building 4 listing on the aerial photograph of MSC used as the center spread of the booklet should be changed from "Flight Operations Office" to "Flight Crew Support Building."



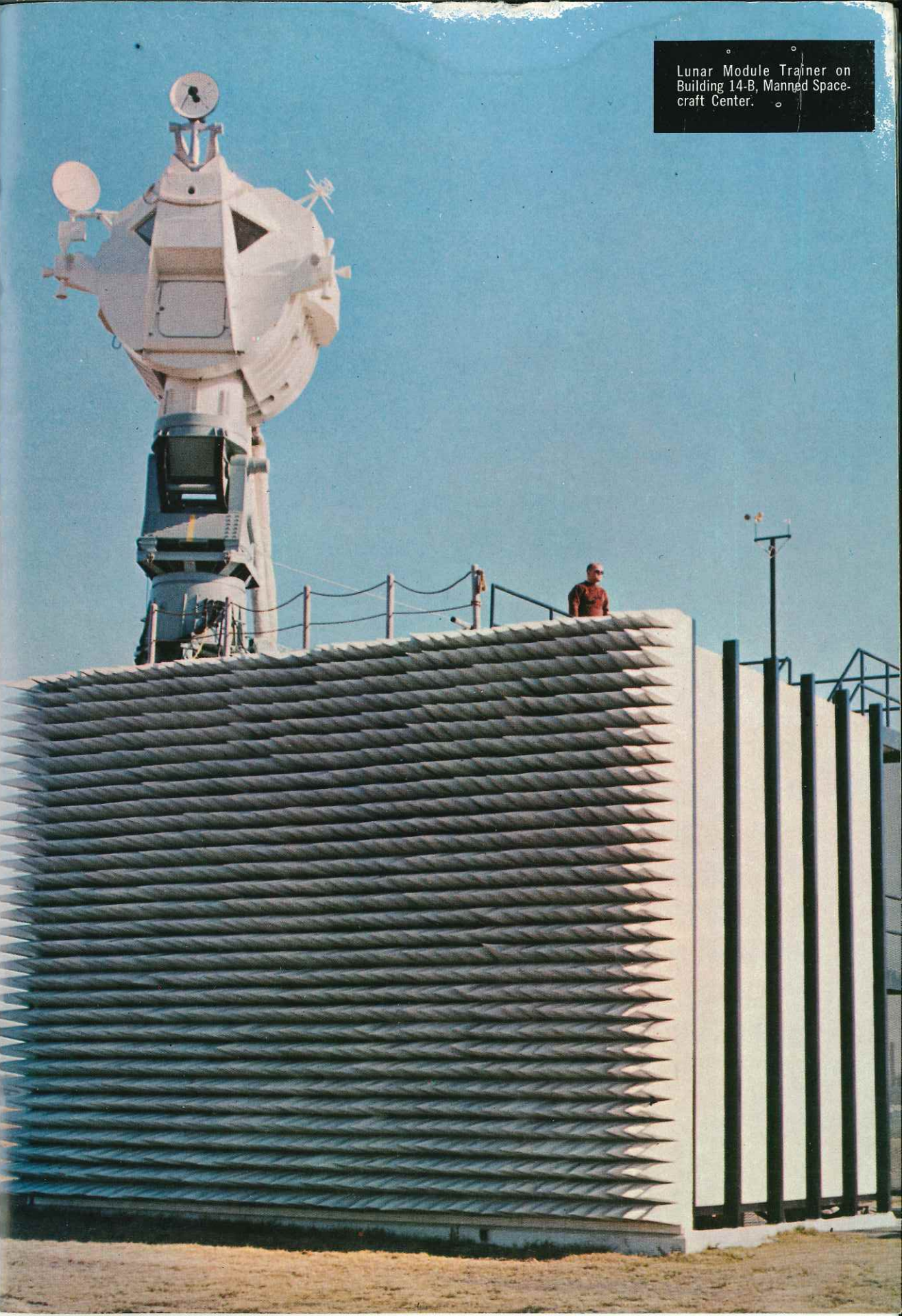
BUILDING 45—Exterior view of Building 45, Project Engineering Facilities, looking southwest.

MORPHEUS—Clean up crews descend upon the Project Management Building while the rest of the site sleeps.



MSC AERIAL VIEW—Site 1, Manned Spacecraft Center, looking northeast.

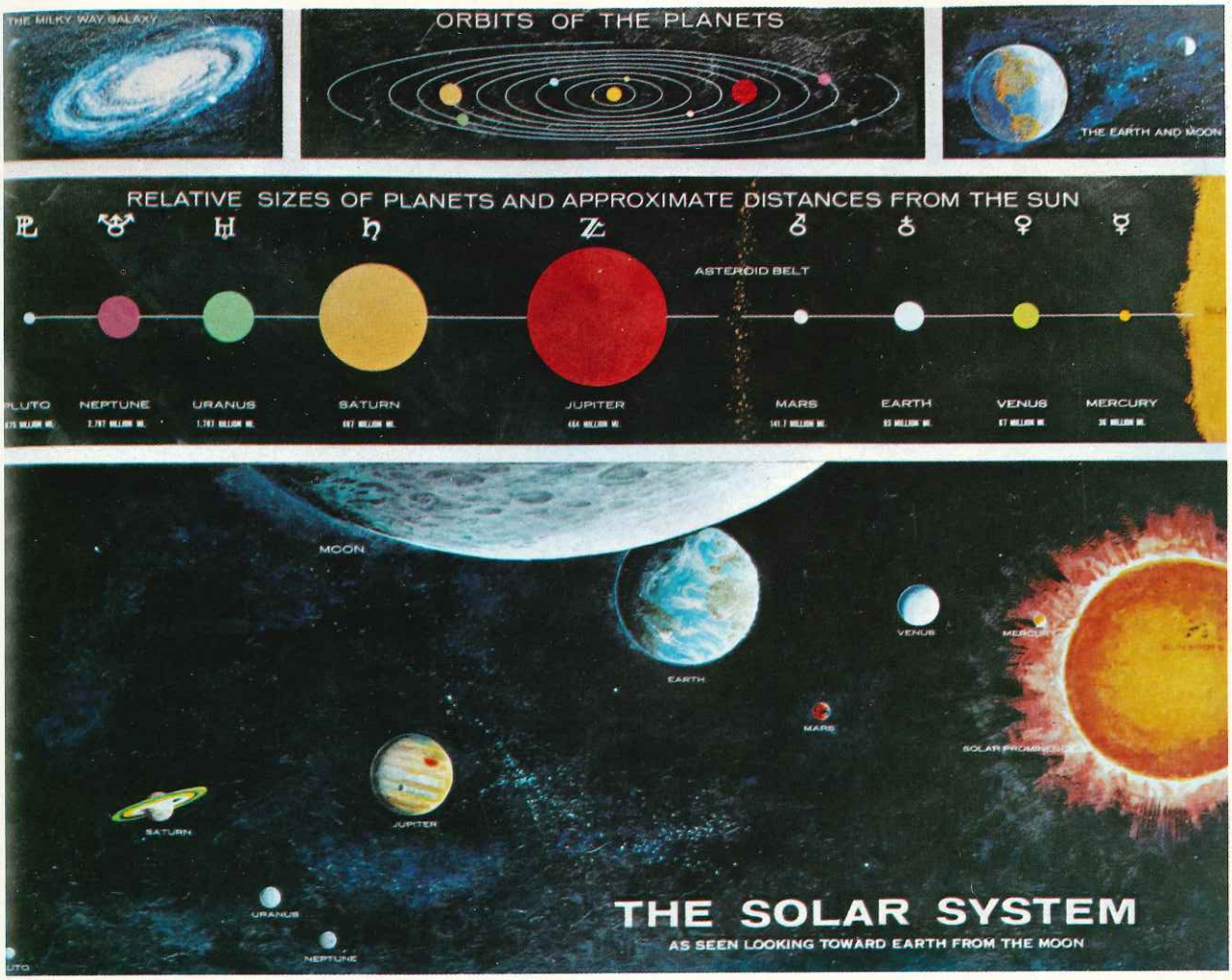
BUILDINGS 30 AND 12—Exterior views of Building 30 (right), Mission Control Center, and Building 12 (left), Central Data Office, looking toward the southwest.



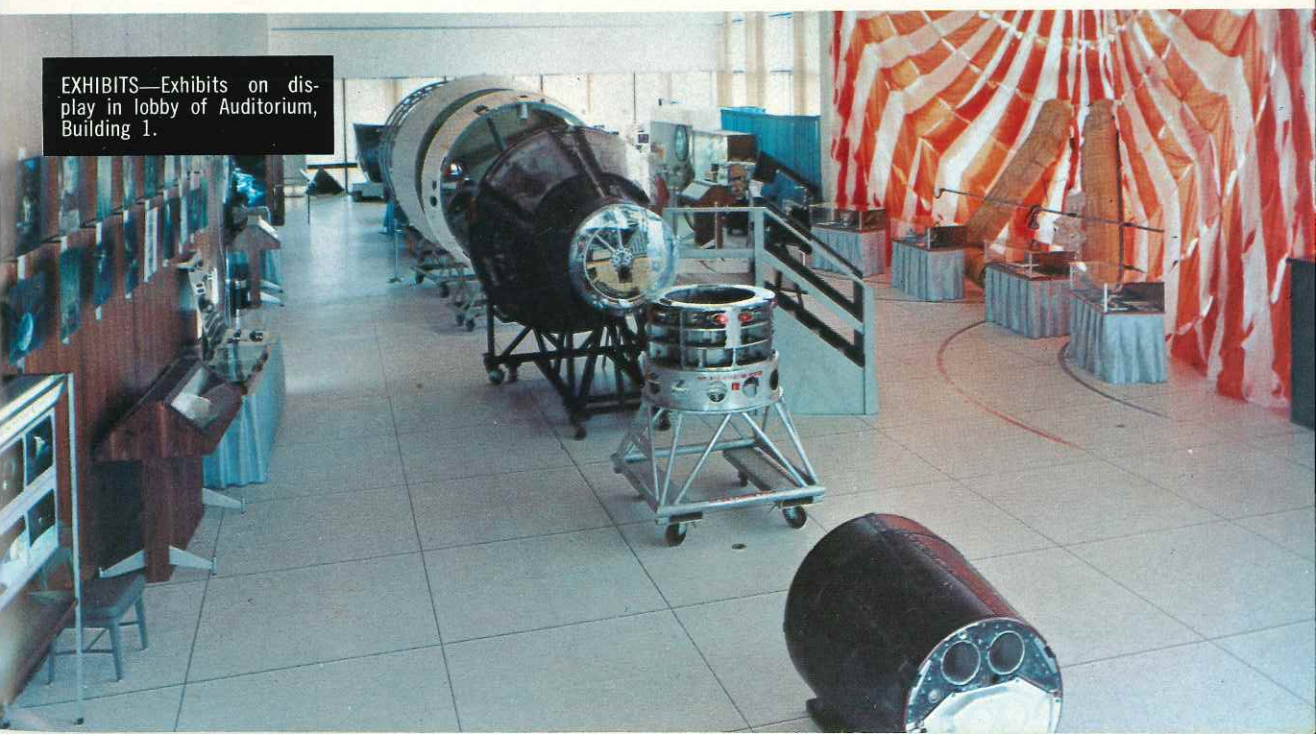
Lunar Module Trainer on Building 14-B, Manned Spacecraft Center.

The activities of the numerous ducks on the MSC mall provide employees at the Center something interesting to observe during their coffee breaks.

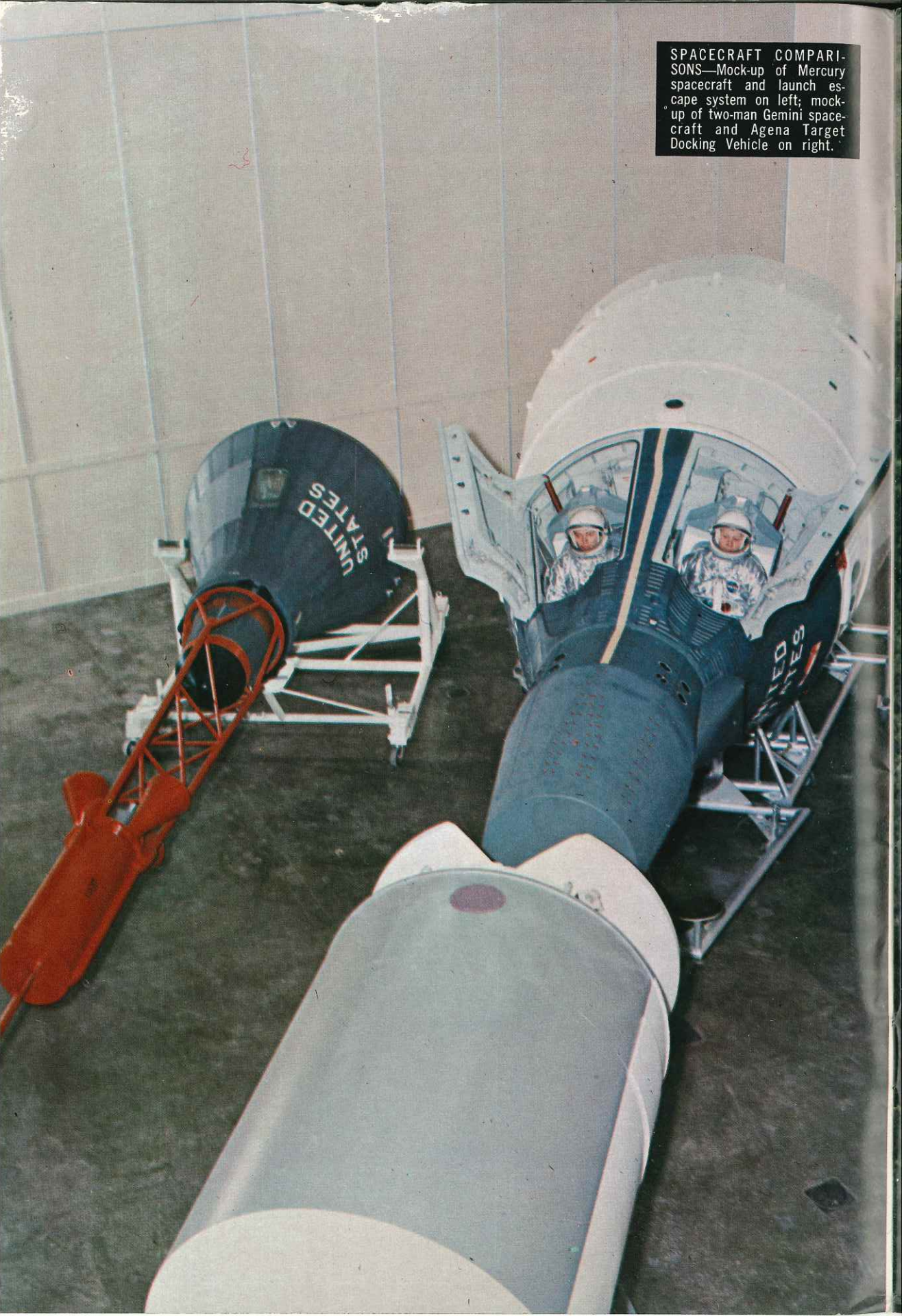
BUILDING 2—Project Management Building at site 1, Manned Spacecraft Center, looking south.



SOLAR SYSTEM—Artist's concept of the solar system.

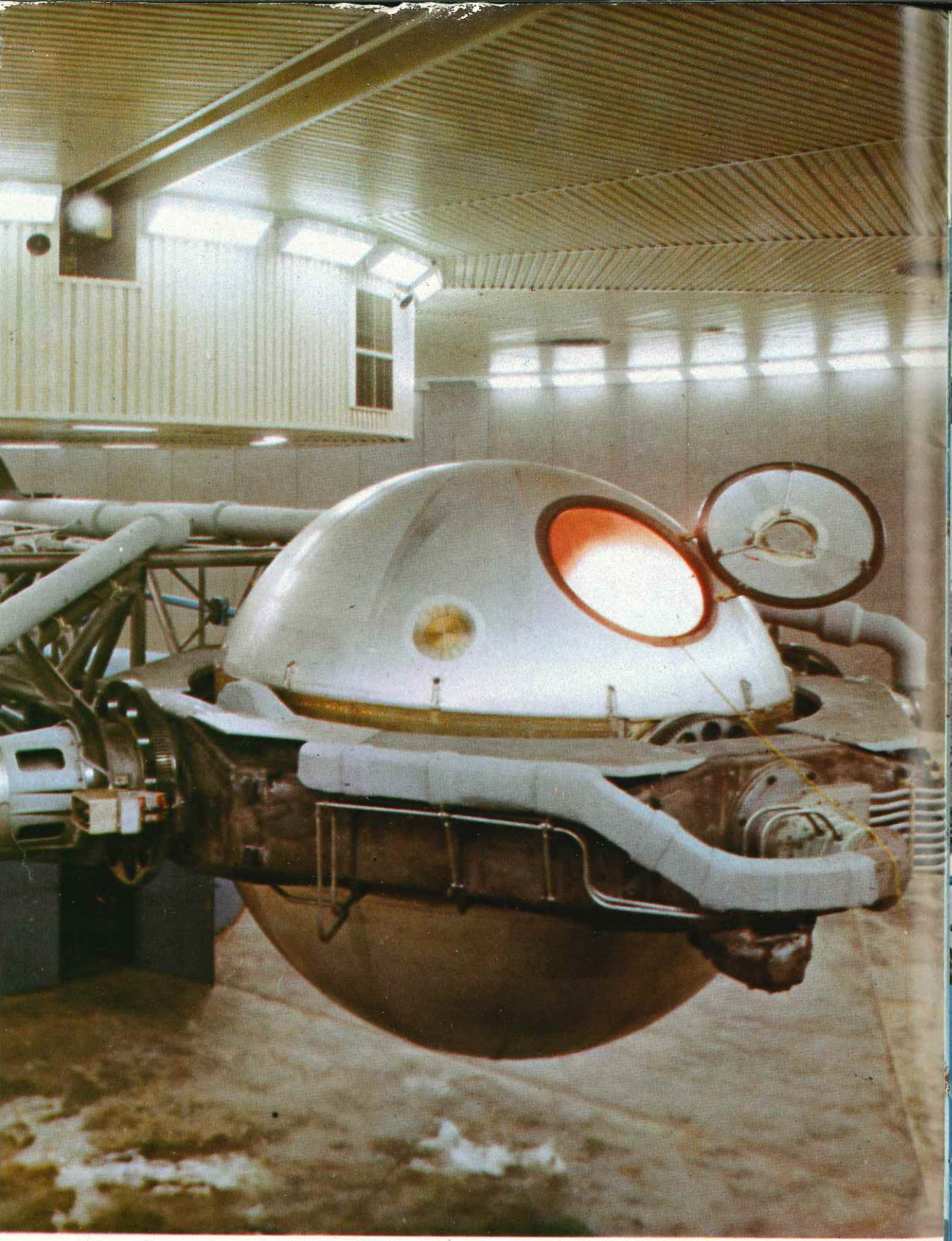


EXHIBITS—Exhibits on display in lobby of Auditorium, Building 1.



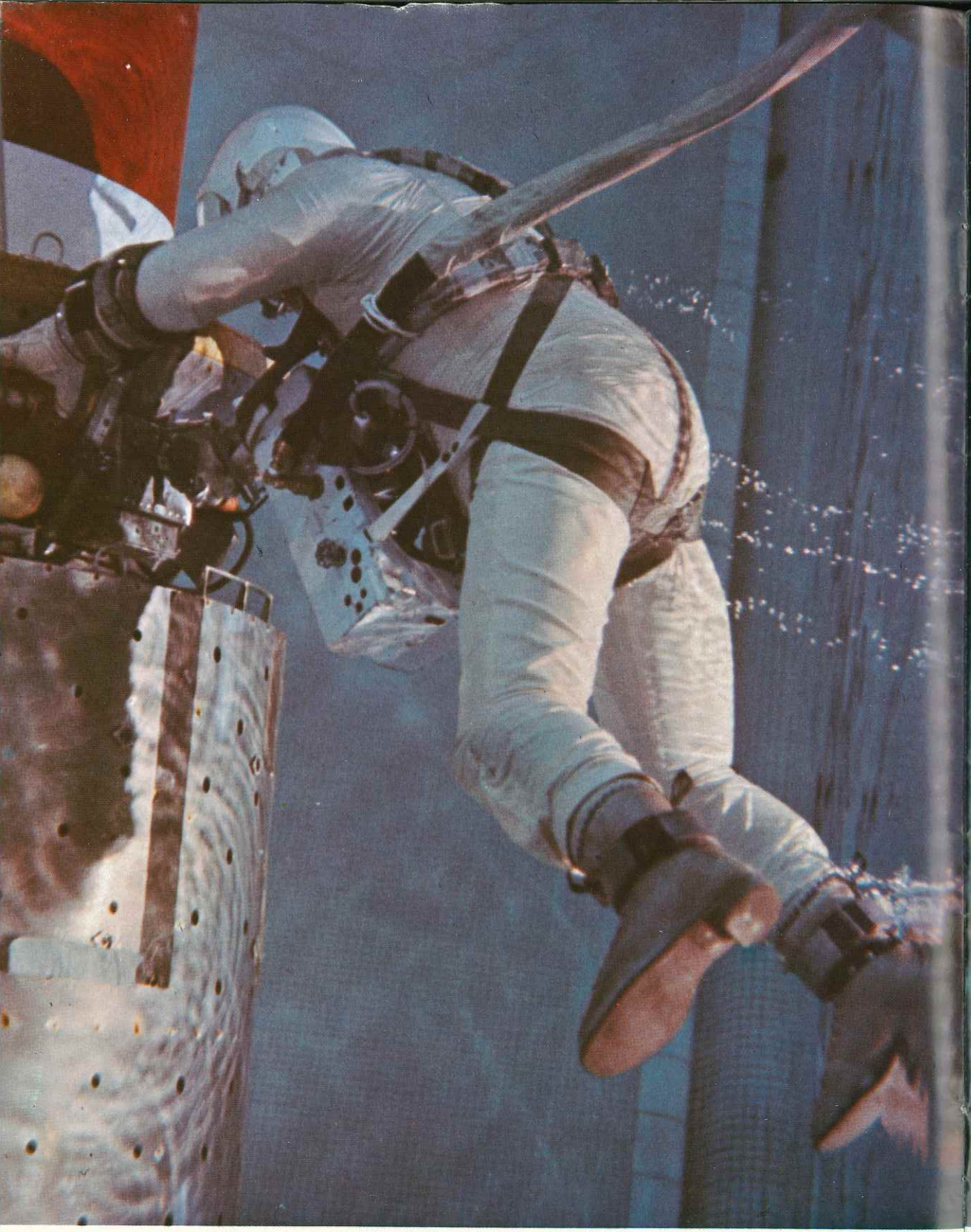
SPACECRAFT COMPARISONS—Mock-up of Mercury spacecraft and launch escape system on left; mock-up of two-man Gemini spacecraft and Agena Target Docking Vehicle on right.

MSC TELESCOPE—Aerial view of the Solar Telescope Facility, Building 270, Manned Spacecraft Center.



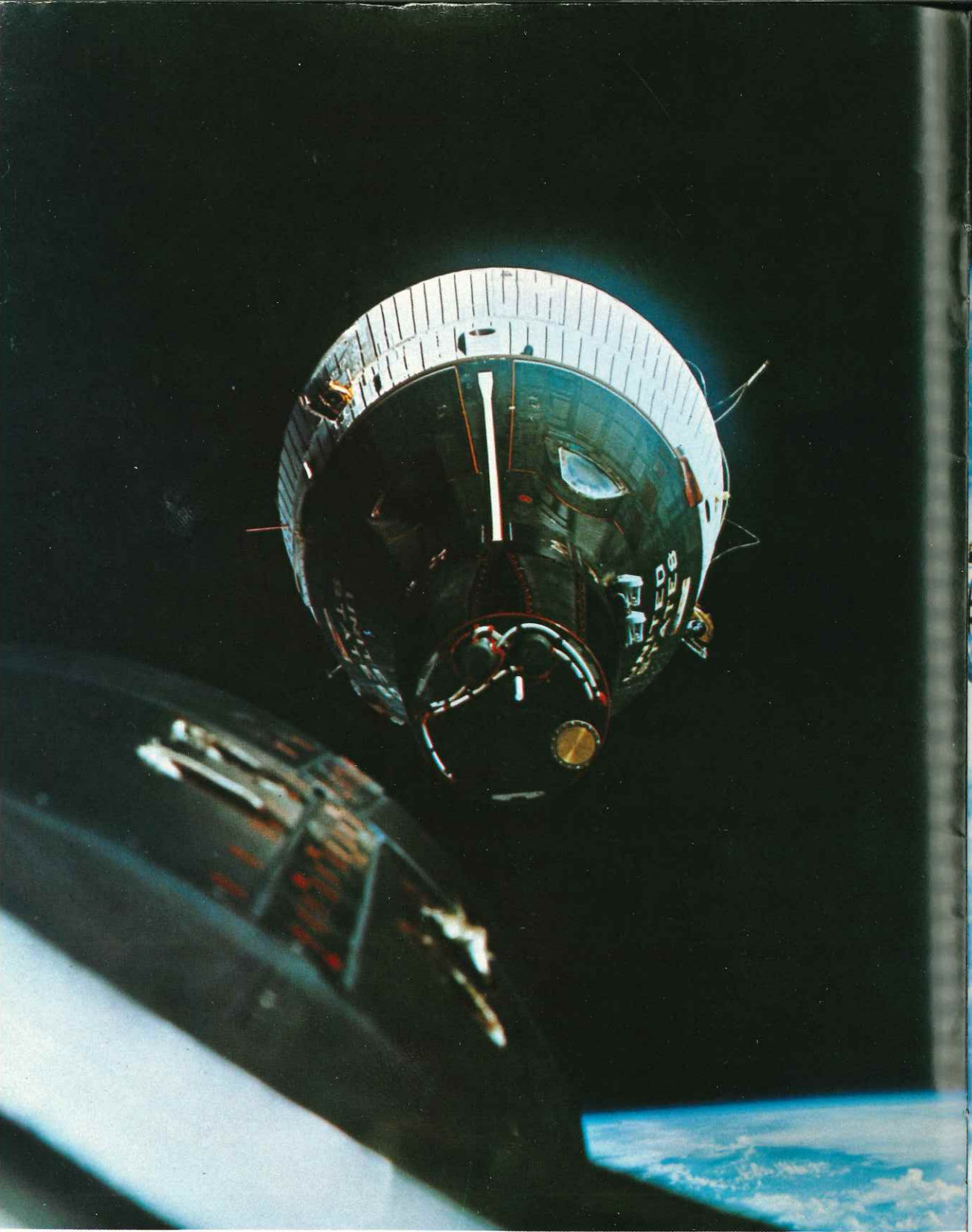
MSC CENTRIFUGE—The new centrifuge at MSC, located in the Flight Acceleration Facility, Building 29. The 50 ft. arm can swing the three-man gondola to create g-forces astronauts will experience during liftoffs and re-entry conditions. The centrifuge was designed primarily for training of Apollo astronauts.

MSC CENTRIFUGE—The new centrifuge at MSC, located in the Flight Acceleration Facility, Building 29, was recently demonstrated for news media representatives. The centrifuge has a 50-foot arm which can swing a three-man gondola to create g-forces astronauts will experience during liftoffs and re-entry conditions. The centrifuge was designed primarily for training of Apollo astronauts.

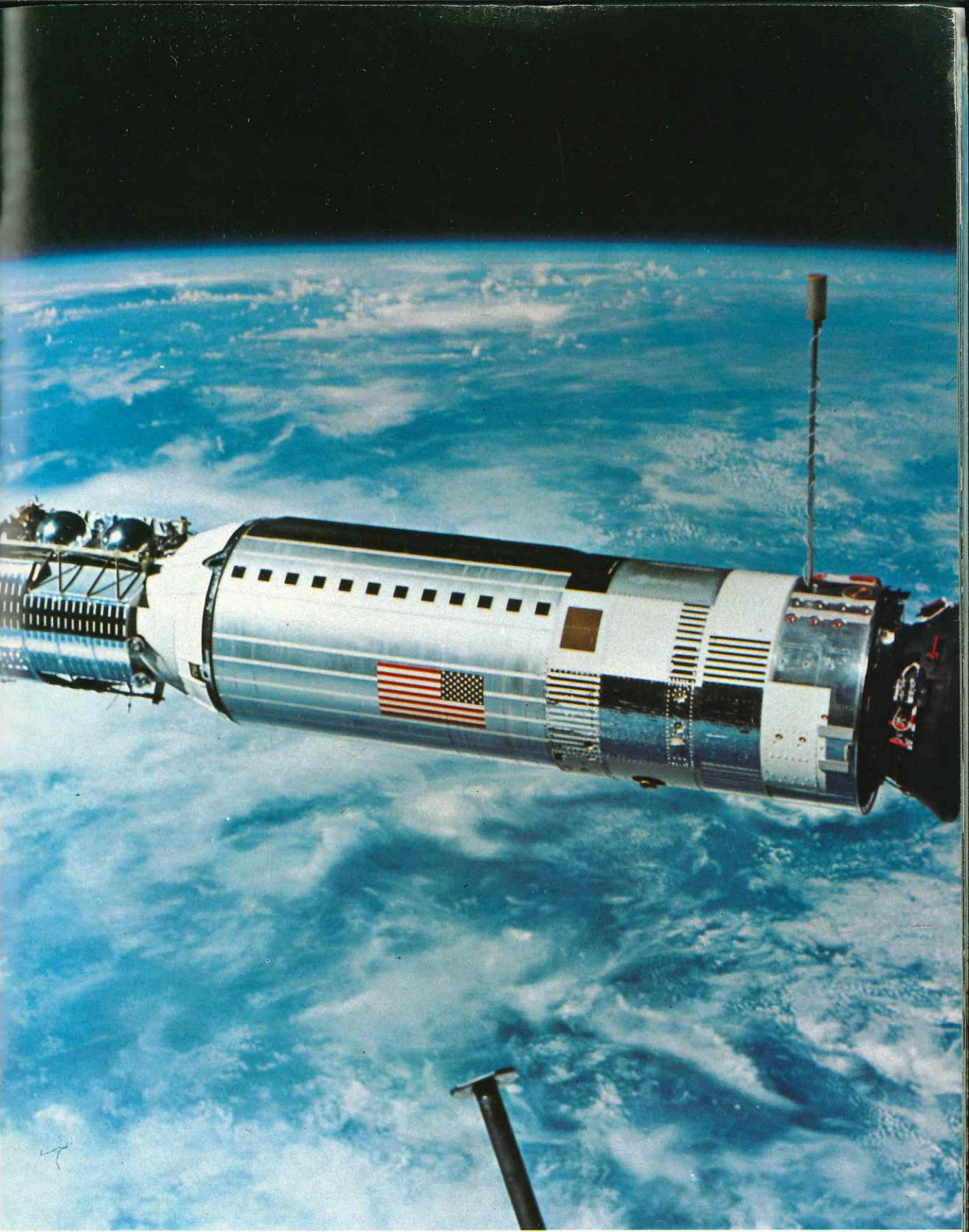


GEMINI XII UNDERWATER TRAINING—Astronaut Edwin Aldrin, pilot for the National Aeronautics and Space Administration's Gemini XII space flight, practices extravehicular work tasks during underwater zero-gravity training. He works on the docking collar of the Agena Target Docking Vehicle mockup using hand holds to secure himself to the vehicle. The underwater environment closely simulates the zero-gravity condition found in space.

METABOLIC TEST — Test engineer Jack Slight, using one-sixth degree of freedom simulator, undergoes metabolic test on a treadmill in the Life Systems Laboratory, Building 7.



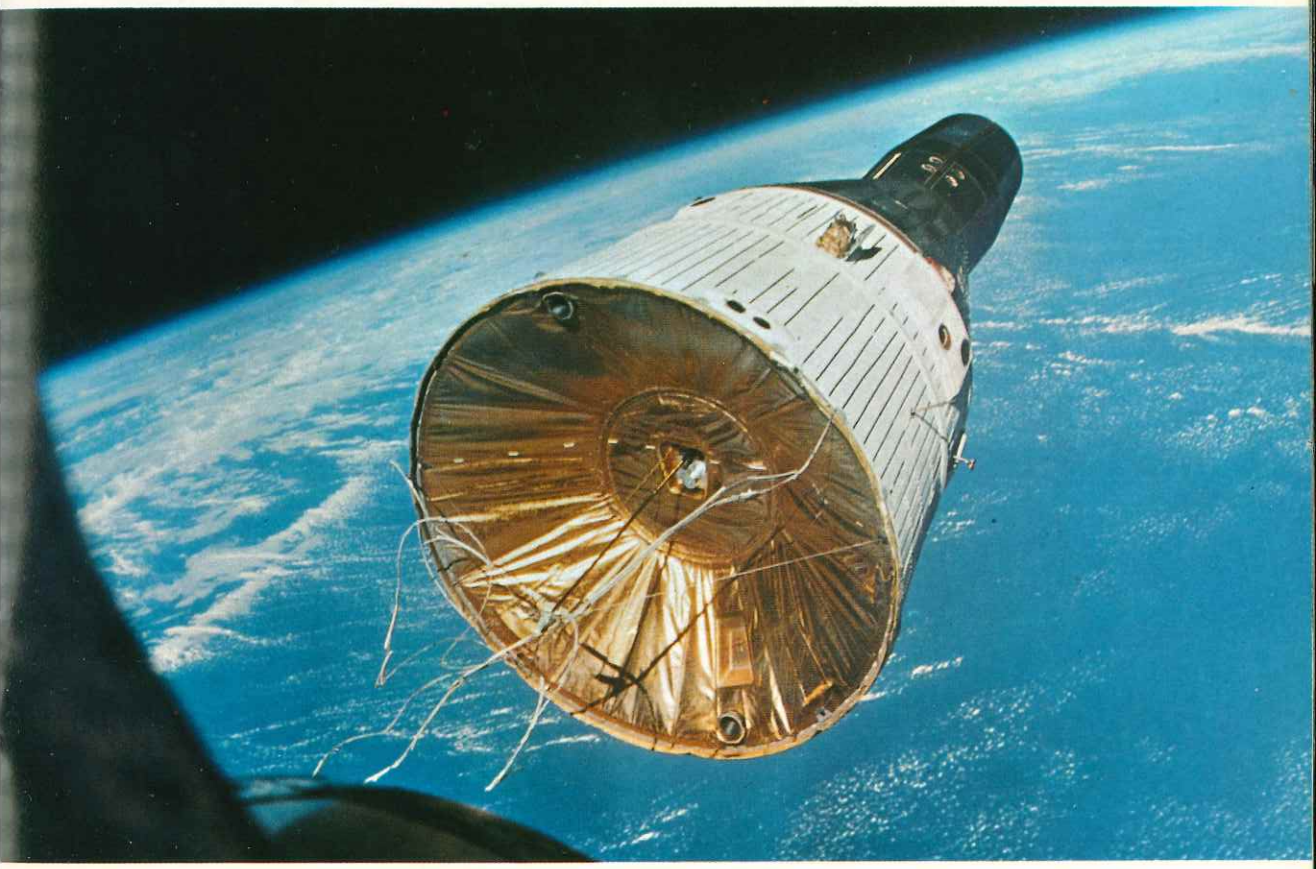
GEMINI 7/6 SPACE PHOTOGRAPHY—This photograph of the National Aeronautics and Space Administration's Gemini VII spacecraft was taken through the hatch window of the Gemini VI spacecraft during rendezvous and station keeping maneuvers at an altitude of approximately 160 miles on December 15, 1965. The photograph was taken with a Hasselblad camera using Kodak SO 217 film with an ASA of 64.



GEMINI XII/AGENA RENDEZVOUS—Excellent stereo and side view of the Agena Target Docking Vehicle as seen from the Gemini XII spacecraft during rendezvous and docking mission in space. The two spacecraft are 41½ ft. apart.

MCC EQUIPMENT — IBM 360/75 computer-view of tape drives and disc storage unit of typical real-time computer, located in the Mission Control Center, Building 30.

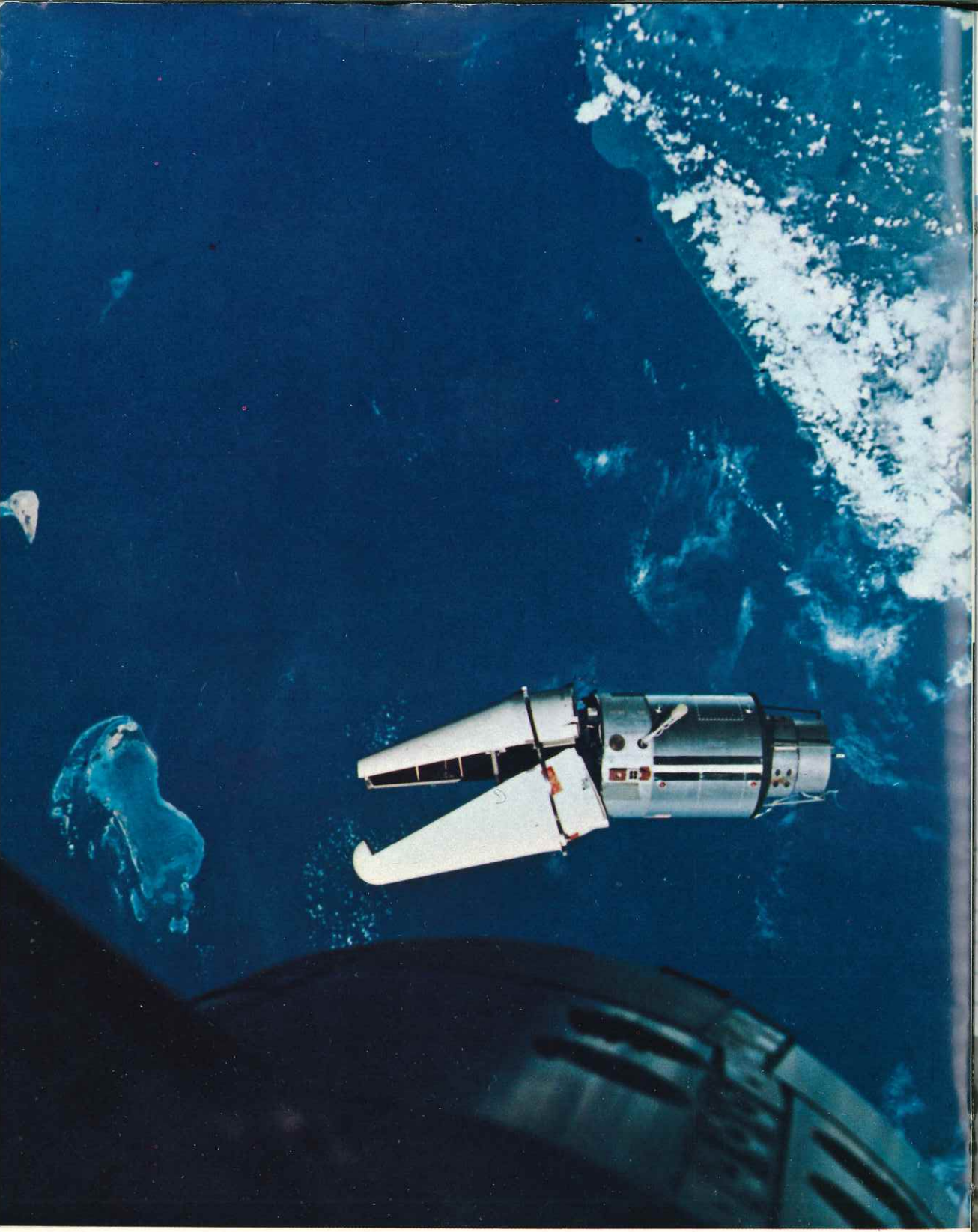
TRACKING STATION—Manned Space Flight Tracking Network Station located at Guaymas, Mexico. Foreground shows radar tracking and communications building. At right is the spacecraft acquisition aid antenna system which listens for the spacecraft radio signals as it comes over the horizon, then tracks the spacecraft with its wide beam. At left, is the TELTRAC PCM (pulse code modulation) receiving antenna system which gathers coded radio messages from the spacecraft and relays it to ground equipment for decoding and display.



GEMINI 7/6 SPACE PHOTOGRAPHY—This photograph of the National Aeronautics and Space Administration's Gemini VII spacecraft was taken through the hatch window of the Gemini VI spacecraft during rendezvous and station keeping maneuvers at an altitude of approximately 160 miles on December 15, 1965. The photograph was taken with a Hasselblad camera using Kodak SO 217 film with an ASA of 64.

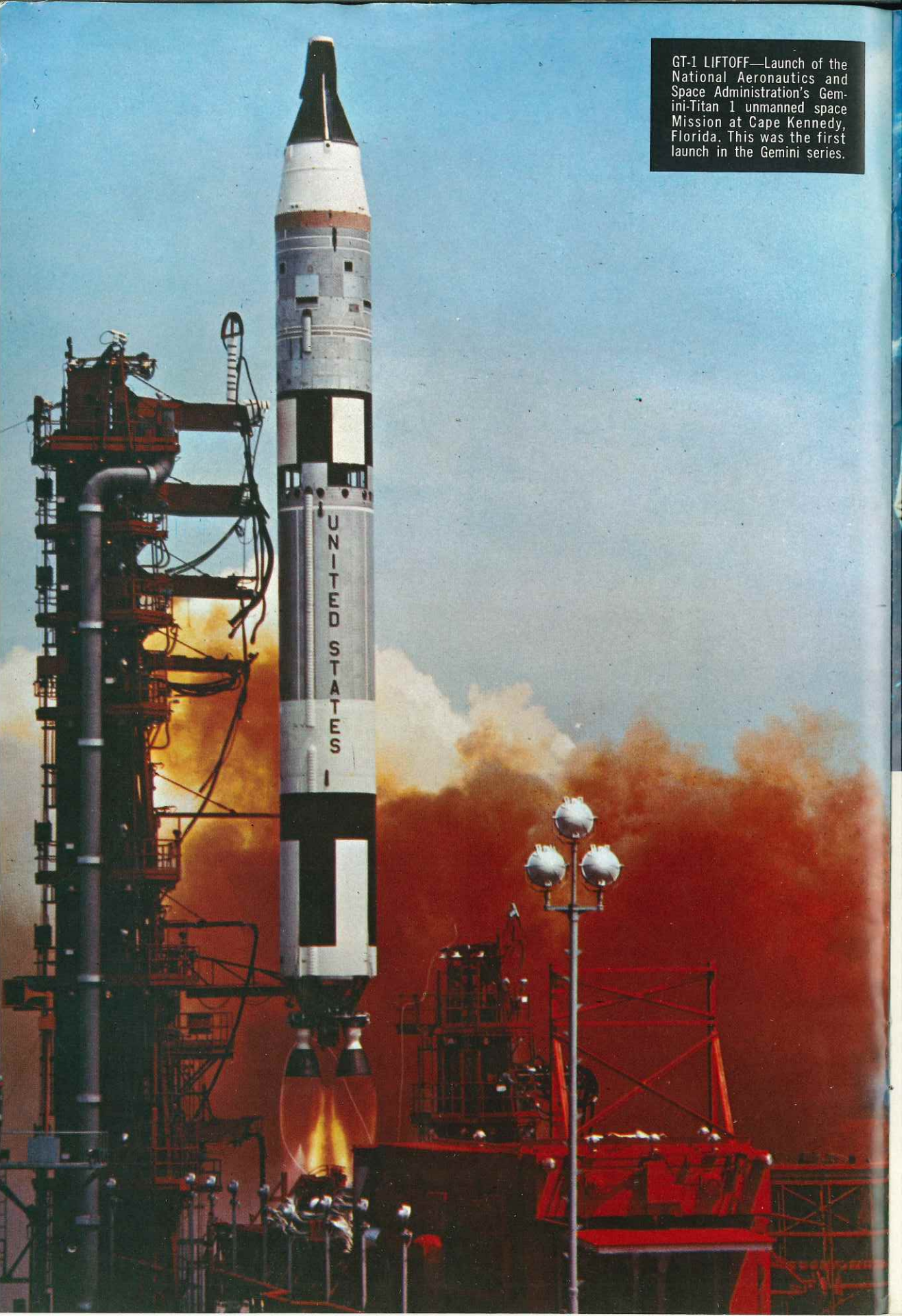
1 AUDITORIUM
2 PROJECT MANAGEMENT BUILDING
3 CENTRAL CAFETERIA
4 FLIGHT OPERATIONS OFFICE
5 MISSION SIMULATION AND TRAINING FACILITY
7 LIFE SYSTEMS LABORATORY
8 TECHNICAL SERVICES OFFICE
9 TECHNICAL SERVICES FACILITY
10 TECHNICAL SERVICES SHOP
11 BRANCH CAFETERIA
12 CENTRAL DATA OFFICE
13 SYSTEMS EVALUATION LABORATORY
14 ANECHOIC CHAMBER TEST FACILITY
15 INSTRUMENTATION AND ELECTRONIC SYSTEMS LABORATORY
16 SPACECRAFT RESEARCH OFFICE AND LABORATORY
24 CENTRAL HEATING AND COOLING PLANT
25 FIRE STATION
29 FLIGHT ACCELERATION FACILITY

30 MISSION CONTROL CENTER - HOUSTON
31 LUNAR MISSION AND SPACE EXPLORATION FACILITY
32 SPACE ENVIRONMENT SIMULATION LABORATORY
33 ULTRA HIGH VACUUM SPACE CHAMBER FACILITY
34 FLIGHT ACCELERATION MOTOR GENERATOR BUILDING
37 LUNAR RECEIVING LABORATORY
45 PROJECT ENGINEERING FACILITY
47 SOUTHWESTERN BELL TELEPHONE BUILDING
48 EMERGENCY POWER BUILDING (MCC-H)
49 VIBRATION AND ACOUSTIC TEST FACILITY
221 ELECTRICAL SUBSTATION
222 ATMOS. REENTRY MAT. AND STRUCTURES EVAL. FACILITY
270 SOLAR TELESCOPE FACILITY
350 THERMOCHEMICAL TEST FACILITY
440 ELECTRONIC SYSTEMS COMPATABILITY FACILITY



GEMINI IX/ATDA RENDEZVOUS—The Augmented Target Docking Adapter is photographed from the Gemini IX spacecraft during one of their three rendezvous in space. The ATDA and Gemini IX spacecraft are 66½ ft. apart. Failure of the docking adapter protective cover to fully separate on the ATDA prevented the docking of the two spacecraft. The ATDA was described by the Gemini IX crew as an "Angry Alligator".

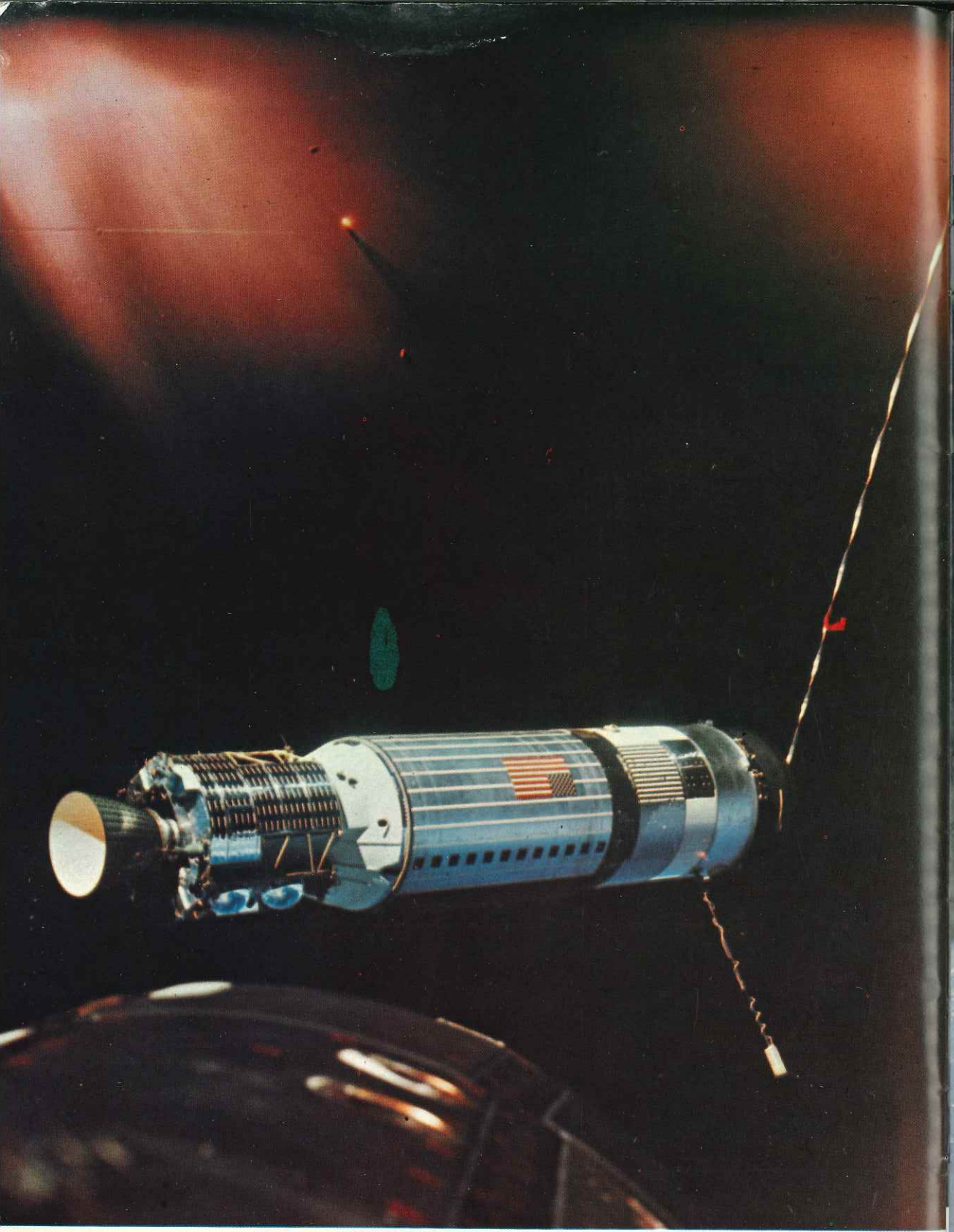
GEMINI XII COUNTDOWN—Prime crew for the National Aeronautics and Space Administration's Gemini XII space flight, Astronauts James A. Lovell Jr. (leading), command. pilot, and Edwin E. Aldrin Jr., pilot, leave the suiting trailer at Launch Complex 16 during prelaunch countdown. Moments later they entered a transport van which carried them to Pad 19 and their waiting spacecraft. The liftoff was at 3:46 p.m. (EST), November 11, 1966, from Cape Kennedy, Florida.



GT-1 LIFTOFF—Launch of the National Aeronautics and Space Administration's Gemini-Titan 1 unmanned space Mission at Cape Kennedy, Florida. This was the first launch in the Gemini series.

GT-4 EVA—Astronaut Edward H. White II, pilot for the Gemini-Titan 4 space flight, floats in the zero gravity of space outside the Gemini-4 spacecraft. Behind him is the brilliant blue of the earth and its white cloud cover. White wears a specially designed space suit, and the visor of his helmet is gold plated to protect him against the unfiltered rays of the sun. He also wears an emergency oxygen pack. He is secured to the spacecraft by a 25 ft. umbilical line and a 23 ft. tether line, both wrapped in gold tape to form one cord. In his left hand he carries a Hand-Held Self-Maneuvering Unit (HHSMU) with which he controls his movements in space. Astronaut James A. McDivitt, command pilot for the mission, remained inside the spacecraft.

GT-4 EVA—Astronaut Edward H. White II, pilot for the Gemini-Titan 4 space flight, floats in the zero-gravity of space outside the Gemini-4 spacecraft. In the background is the earth visible beyond the cloud cover. The Gemini 4 spacecraft can be seen across the bottom of the picture with the open hatch on the right. White wears a specially designed space suit and carries a Self-Maneuvering Unit in his right hand. The unit provided White with a means of control over his movements in space. The visor of his helmet is gold plated to protect him from unfiltered rays of the sun. He also wears an emergency oxygen chest pack. White is attached to the spacecraft by a 25 ft. umbilical line and a 23 ft. tether line, both wrapped in gold tape to form one cord. Astronaut James A. McDivitt, command pilot, remained inside the spacecraft during White's extravehicular activities.



GEMINI XI/AGENA RENDEZVOUS—The Agena Target Docking Vehicle is photographed from the Gemini XI spacecraft. The 100 ft. tether line which had connected the two vehicles has just been released. About 50 ft. separate the two vehicles. Earlier, while docked the combined Gemini XI and Agena vehicles carried Astronauts Charles Conrad, Jr. and Richard F. Gordon, Jr. to a new altitude record of 740 nautical miles.

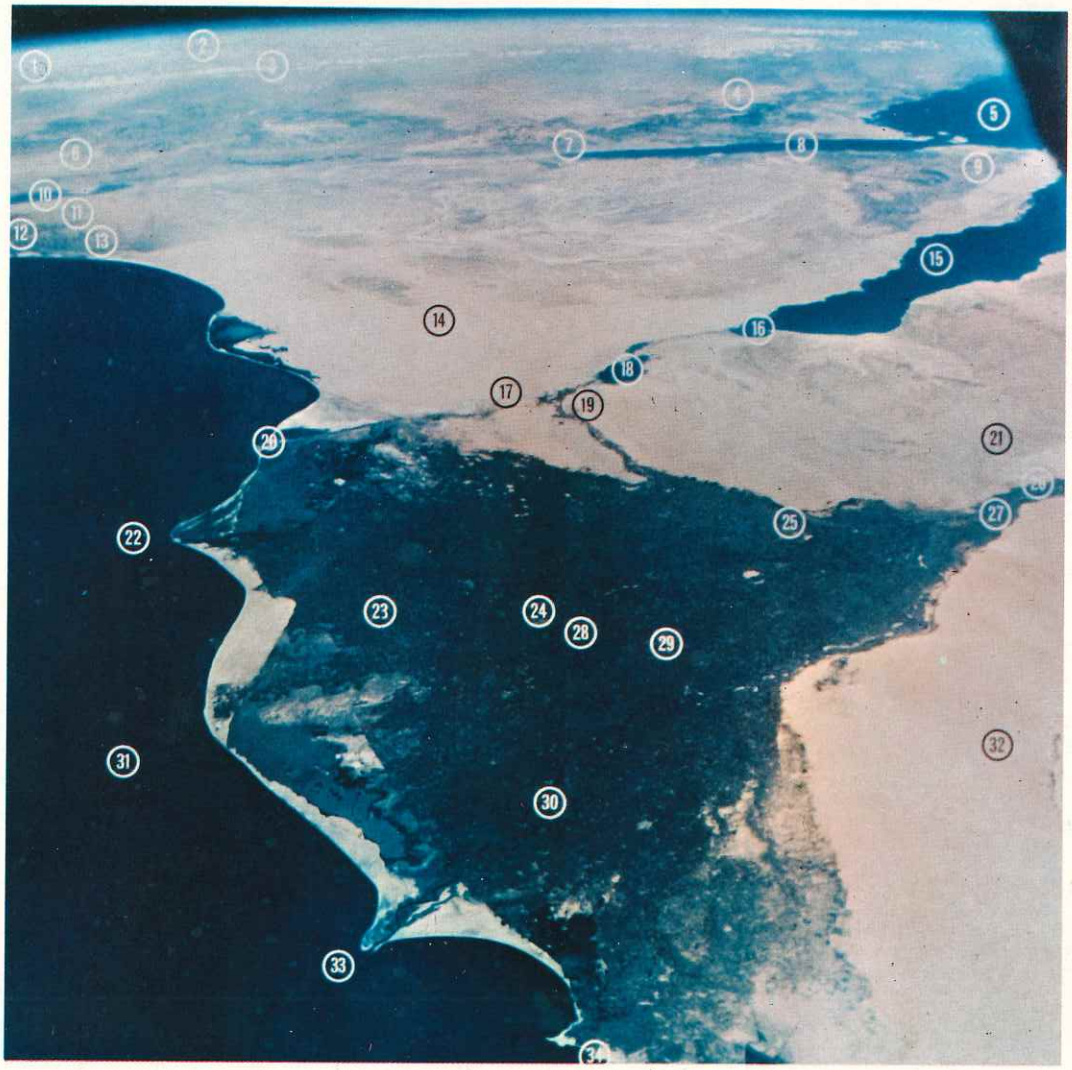
GEMINI XII EARTH-SKY VIEW—Gulf of California area as seen from the GEMINI XII spacecraft during its 30th revolution of the earth. Baja California Sur is the peninsula on the right. At lower left is the mainland of Mexico. A 100 ft. tether line connects the Agena Target Docking Vehicle with the Gemini XII spacecraft. View is looking south.

GEMINI XI RECOVERY—Astronauts Richard F. Gordon Jr. (left), pilot, and Charles Conrad Jr., command pilot, sit in life raft while awaiting pickup by a helicopter from the USS Guam. The National Aeronautics and Space Administration's Gemini XI spacecraft splashed down in the Downrange Recovery Area of The Atlantic Ocean at 9 a.m. (EST), September 15, 1966, to conclude a three-day mission in space.

GEMINI V RECOVERY—Crew members of the Gemini V space flight, Astronauts L. Gordon Cooper Jr., command pilot, and Charles Conrad Jr., pilot, are officially greeted by officers of the carrier USS Lake Champlain. The astronauts were picked up following successful splashdown in the Downrange Recovery Area, Atlantic Ocean, by recovery helicopter crews and flown to the carrier to begin postflight medical and technical debriefings.

GEMINI XI EARTH-SKY VIEW—Western half of Australia, including the coastline from Perth to Port Darwin, looking west, as seen from the Gemini XI spacecraft during its 26th revolution of the earth. Photograph was taken while the spacecraft was at a record-high apogee of 740 nautical miles.

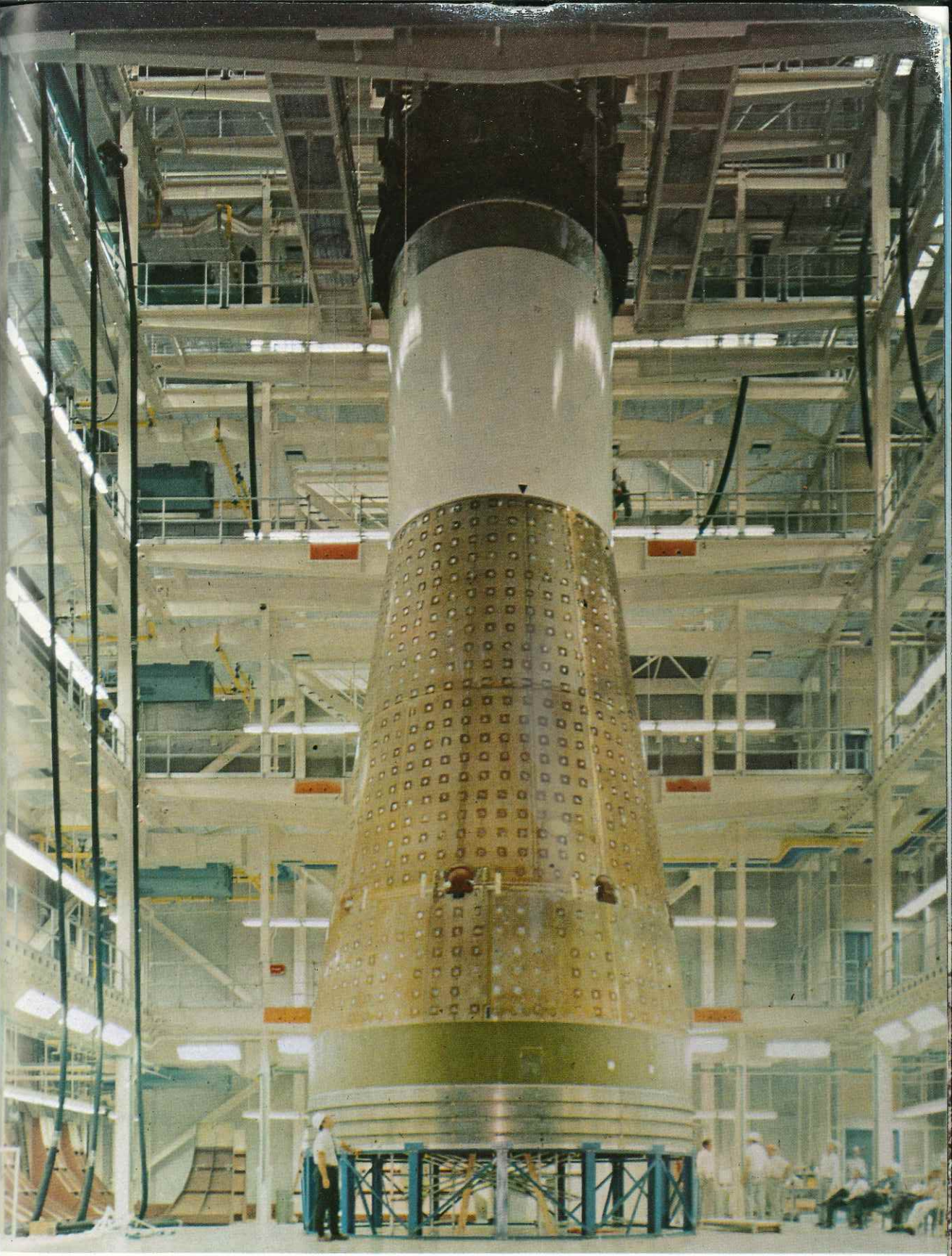
CRADLE OF CIVILIZATION AS VIEWED FROM GEMINI IV LOOKING ESE AT 110 STATUTE MILES ALTITUDE JUNE 5, 1965



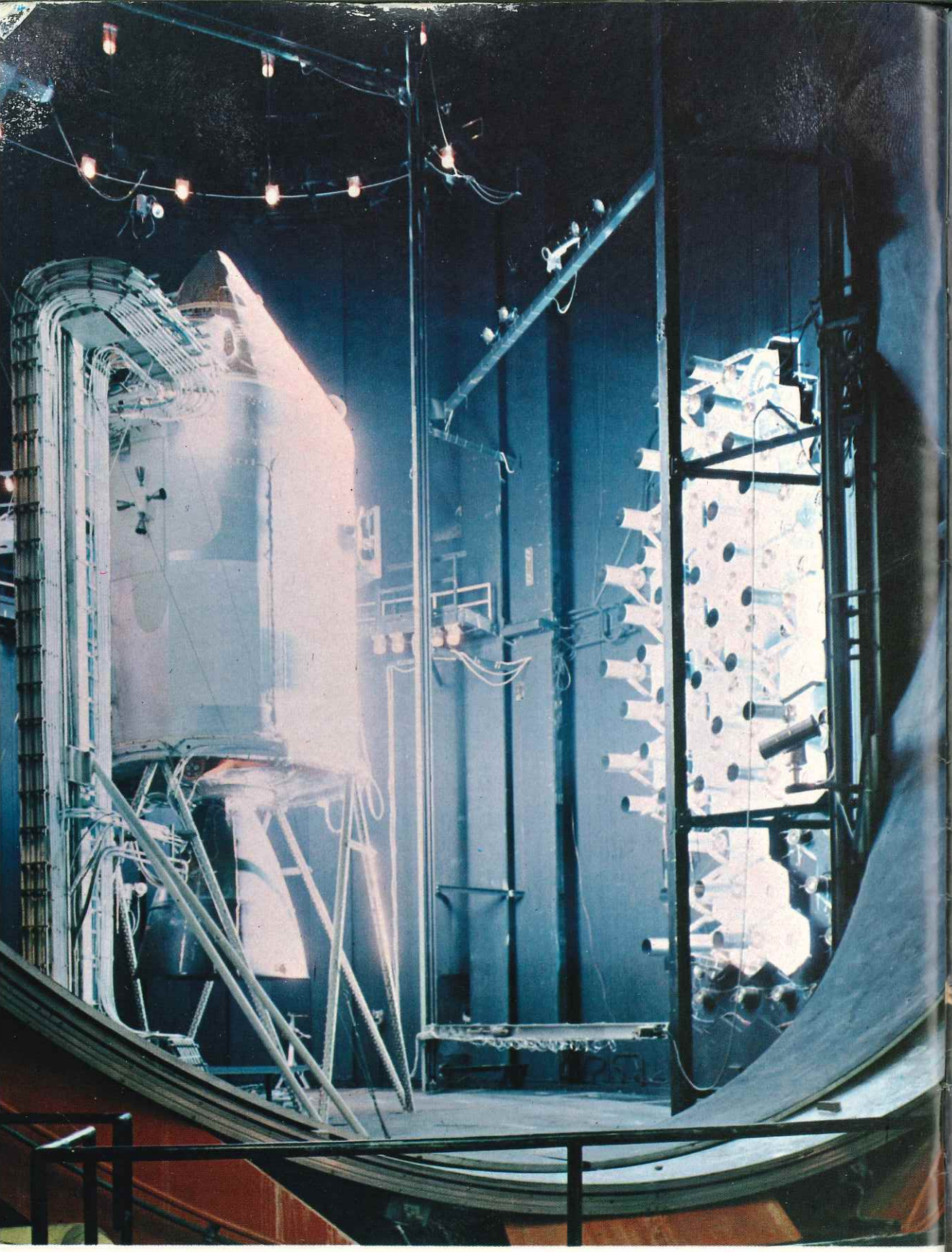
1 SYRIA
2 EUPHRATES RIVER
3 IRAQ
4 SAUDI ARABIA
5 RED SEA
6 JORDAN
7 AQABA
8 GULF OF AQABA
9 MT SINAI
10 DEAD SEA
11 BEERSHEBA
12 ISRAEL
13 GAZA
14 SINAI DESERT
15 GULF OF SUEZ
16 SUEZ
17 SUEZ CANAL
18 BITTER LAKE
19 ISMAILYA
20 PORT SAID
21 EASTERN DESERT
22 DAMIETTA MOUTH
23 NILE RIVER
24 EL MANSURA
25 EGYPT
26 NILE RIVER
27 EL QAHIRA (CAIRO)
28 EL MAHALLA
29 TANTA
30 NILE RIVER
31 MEDITERRANEAN SEA
32 WESTERN DESERT
33 ROSETTA MOUTH
34 ALEXANDRIA

GEMINI IV EARTH-SKY VIEW—Historical and geographical points of interest marked on photograph of Near East area taken by the Gemini IV space mission. The photograph was taken with a modified 70mm Hasselblad camera, using Eastman color film, ASA 64, at a lens setting of 250th of a second at f/11.

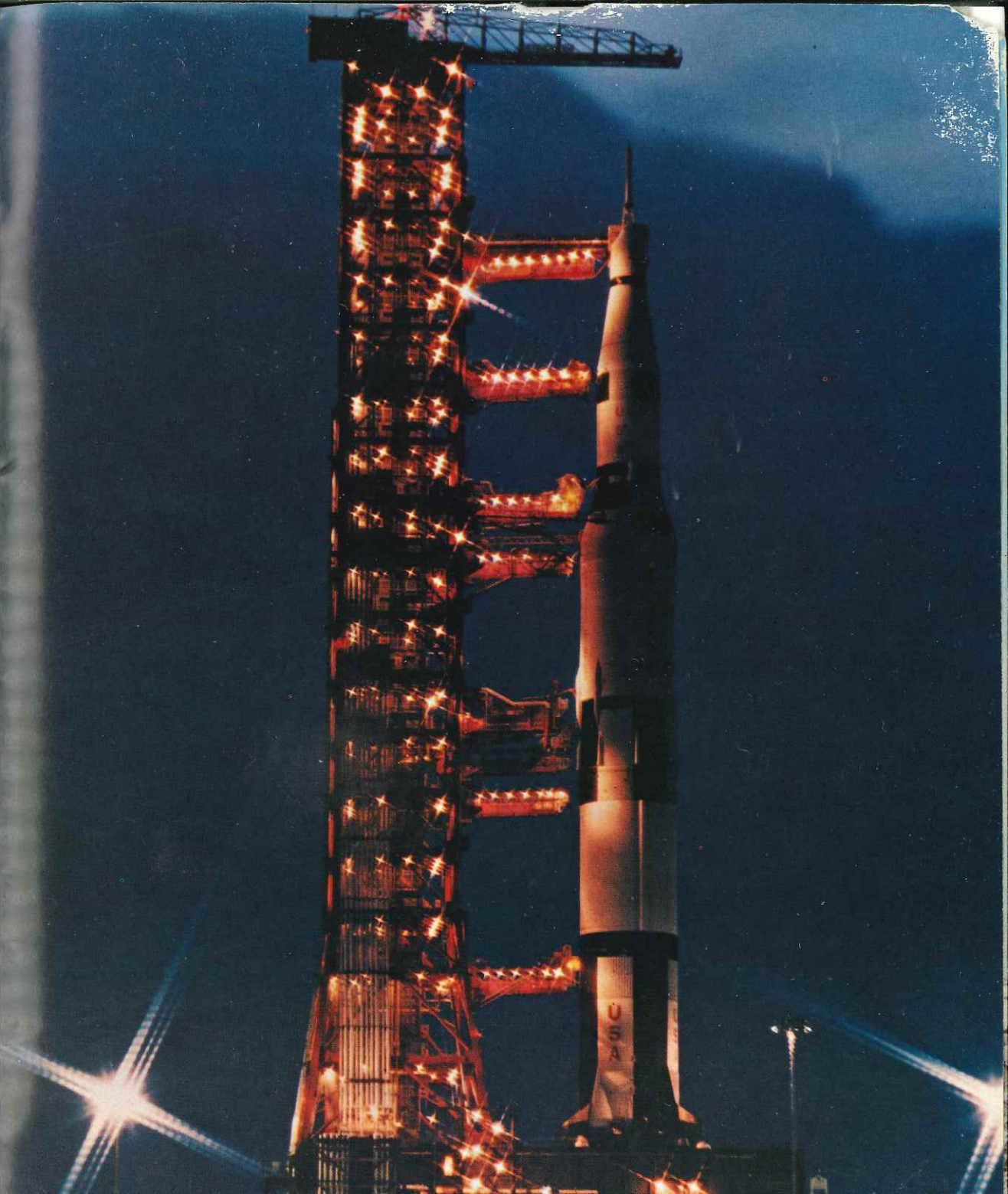
GEMINI XI EARTH-SKY VIEW—Sinai Peninsula (triangular-shaped) area of Near East as seen from the Gemini XI spacecraft during its 26th revolution of the earth. White overlay points out features of the area.



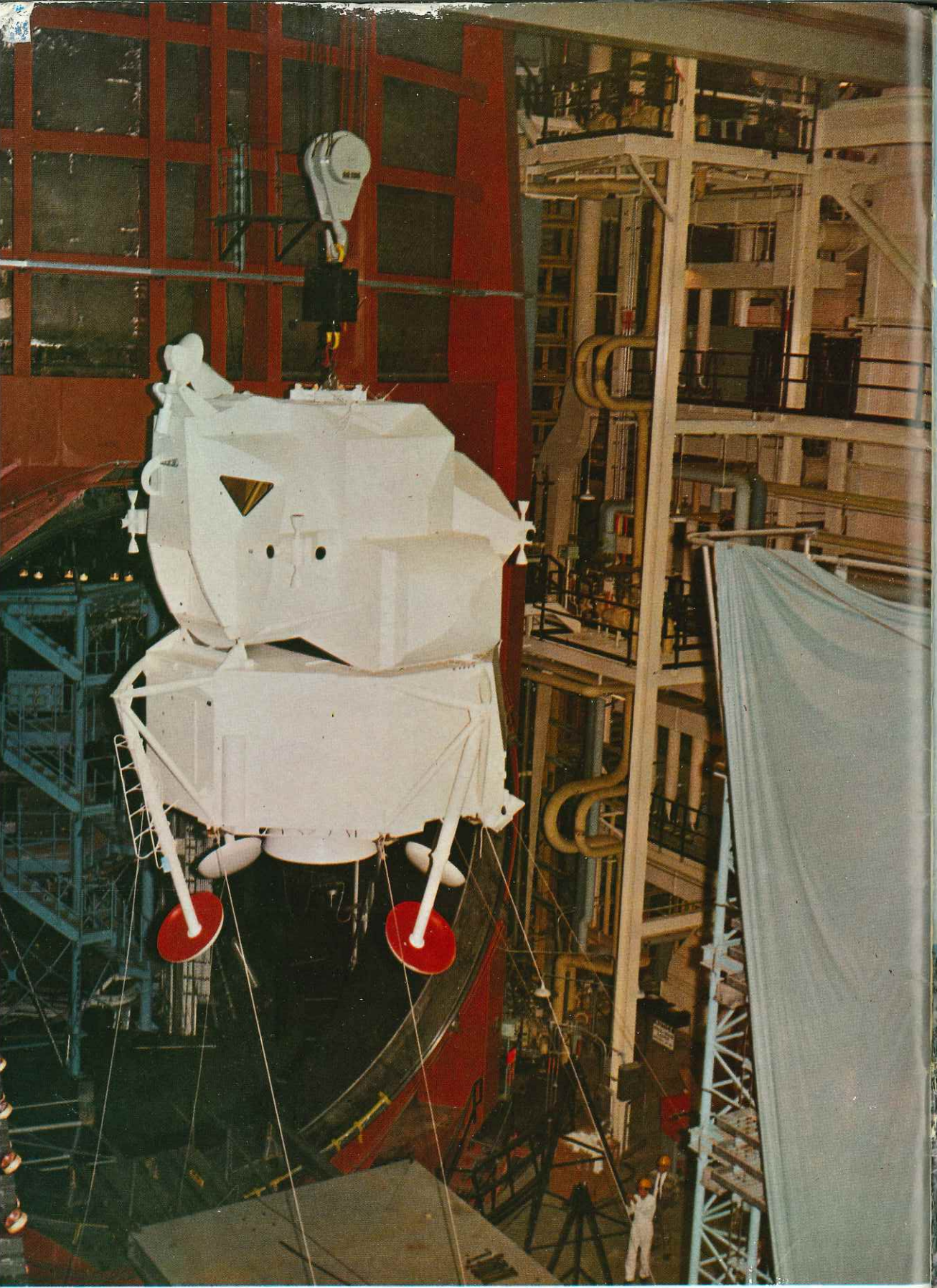
ACOUSTIC TEST—Complete Apollo stack undergoing test in the Vibration and Acoustic Facility, Building 49. The stack consists of Boilerplate 1150 Command Module; Service Module Mock-Up No. 2; Spacecraft LM Adapter-2; and 500/200 S Instrument Unit.



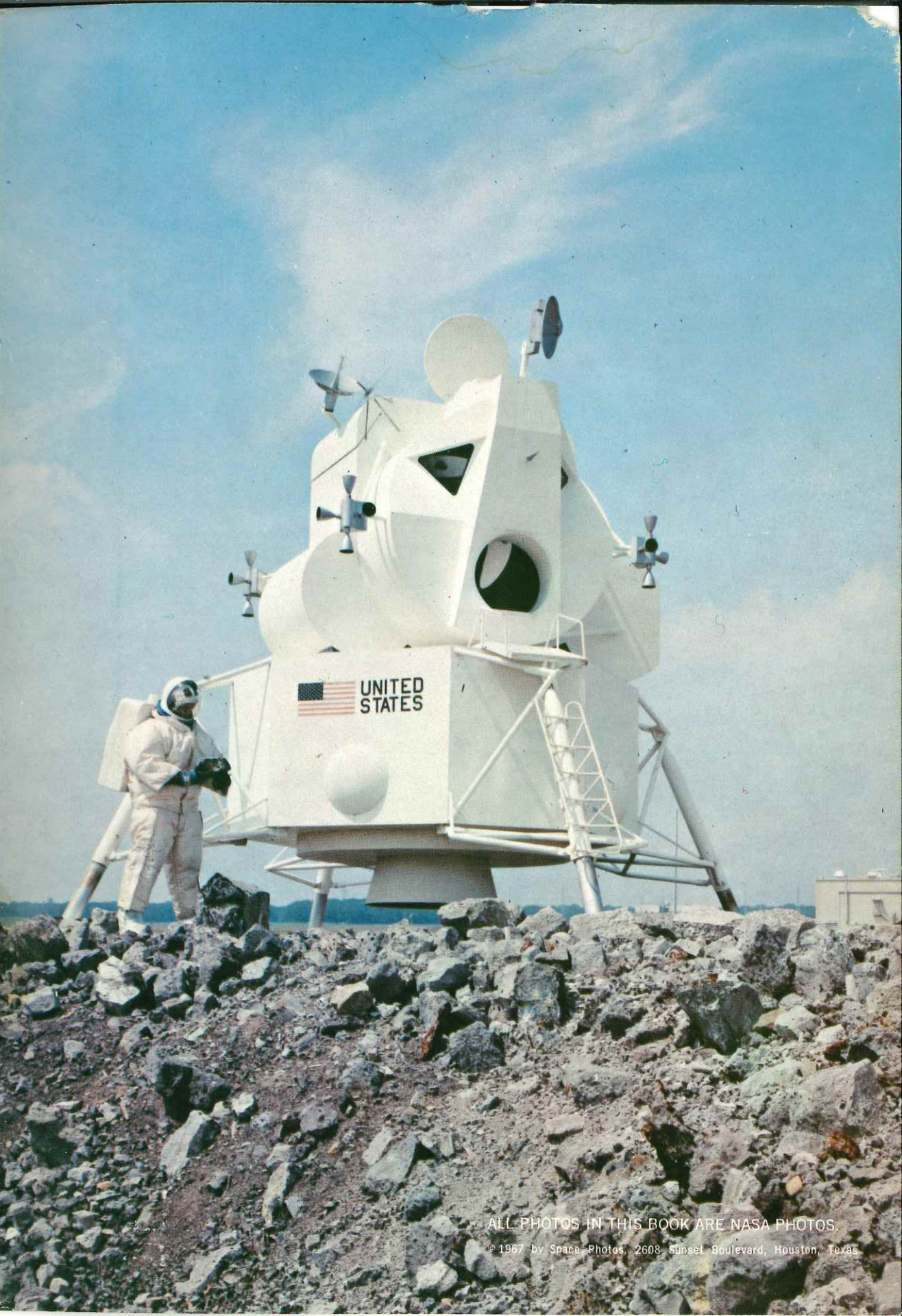
APOLLO SPACECRAFT 008—Apollo Spacecraft 008 (Ground Test Vehicle) in Chamber A of the Space Environment Simulation Laboratory, Building 32. Tests conducted with the Ground Test Vehicle are aimed toward simulation in a thermo-vacuum environment as many of the procedures and systems usage profiles of the first manned Apollo flight as possible.



LAUNCH COMPLEX 39 CHECKOUT—An Apollo/Saturn V Facilities Test Vehicle in place at Pad 39A, Kennedy Space Center, Florida. This test vehicle, designated the Apollo/Saturn 500-F is used to verify launch facilities, train launch crews, and develop test and checkout procedures.



LM M-3 MOCK-UP—Lunar Module M-3 mock-up, a facility compatibility checkout vehicle, during checkout of facilities in the Space Environment Simulation Laboratory, Building 32.



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GEMINI XII EARTH-SKY VIEW—Gulf Coast area from San Antonio Bay, Texas, to Grand Lake, Louisiana, as seen from the Gemini XII spacecraft during its 44th revolution of the earth. Galveston Bay and Houston area is near center of picture. Further eastward is Sabine Lake and the Beaumont-Port Arthur area. Lake Charles, Louisiana, just to the north of Calcasieu Lake, is also clearly visible. Sam Rayburn Reservoir is at top center of picture. Visible in the Houston area are Lake Houston, Jetero Airport, the Astrodome, and the Manned Spacecraft Center.